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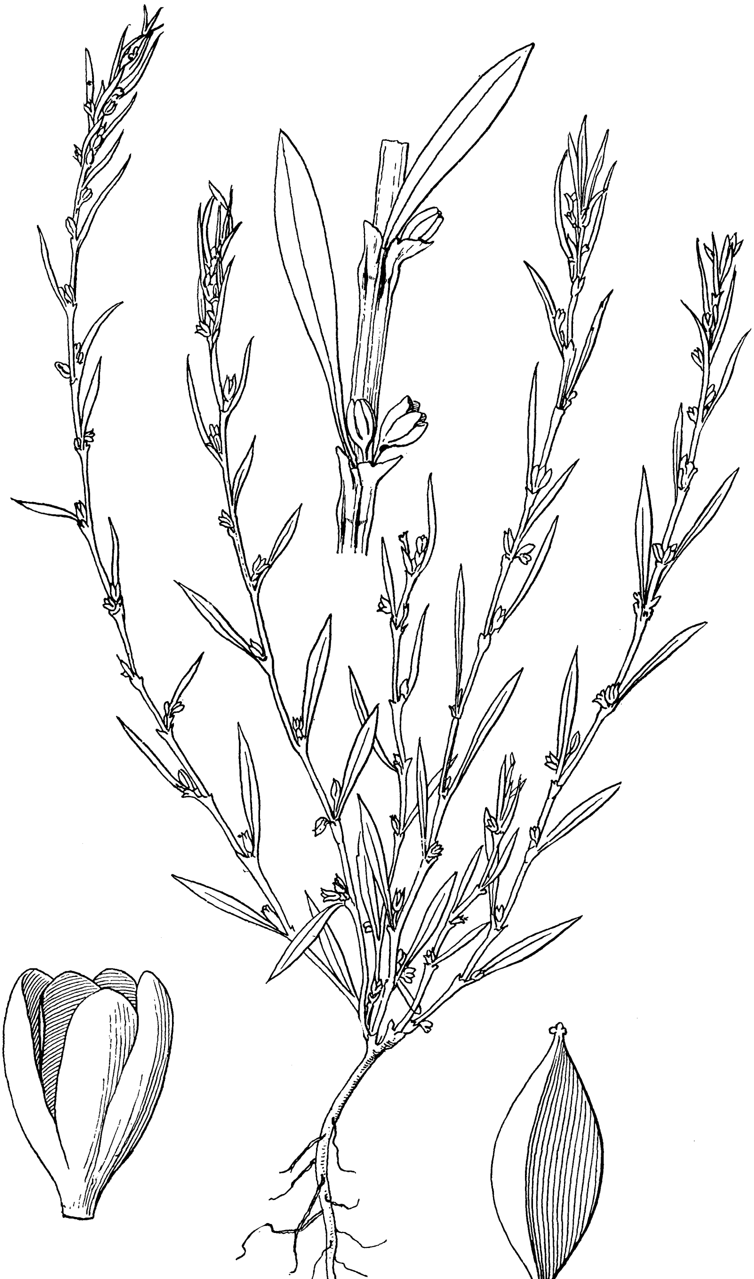
BULLETIN OF THE TORREY BOTANICAL CLUB.—PLATE CLVI.



POLYGONUM SAWATCHENSE, SMALL.

times desirable to question. These are the genus, the species, and the authority. If it was always understood that the mark cast doubt upon the word which it immediately followed, it could be used with an exactness which it does not now admit of. Is it not worth while for the committee to formulate a rule which will embody the above facts?

F. H. KNOWLTON.

U. S. NATIONAL MUSEUM, March 25, 1893.

[It would seem that the interrogation mark placed as in the first and fourth of Mr. Sudworth's models should indicate that the author is in doubt whether he is or is not referring to the *Ranunculus aquatilis* of Linnæus; placed as in the second model would indicate that doubt is thrown on *Ranunculus aquatilis* belonging in the genus *Ranunculus*, and would ordinarily only be employed in the first description of a plant. We see no particular application for the third method.—ED.]

Further Notes on American Species of Polygonum.

BY JOHN K. SMALL.

(PLATE CLVI.)

Since the publication of my Preliminary List of American Species of *Polygonum* in the BULLETIN of December, 1892, I have had an opportunity to examine and study, among other collections, those of the Geological and Natural History Survey of Canada and the California Academy of Sciences. The former is rich in specimens from the territory north of the United States, and the latter is remarkably well stocked with rare and interesting Western material, as well as some of the very scarce species from the Andes of South America.

The following notes and descriptions of new forms are the result of some observations on the different species recorded below. I also take occasion in this place to ask collectors, in whatever part of the country they may be, to gather all the forms of the genus under consideration that they may meet with during the coming season.

POLYGONUM SAWATCHENSE, n. sp. Annual; more or less scurfy or papillose throughout, of a dull green color; stem erect, striate, obscurely four-angled and four-winged below the ocreæ, branched from the base, .6–1.5 dm. tall; leaves narrowly obovate below, almost linear above, .5–2 cm. long; .1–.4 cm. broad, sessile, with conspicuous articulations at the junctions with the ocreæ, acute at the apex, acuminate at the base, strongly revolute, much the same length even to the summit of the stem; mid-rib very prominent beneath and generally wing-like; ocreæ funnel-form, lacerate to about the middle; inflorescence of axillary clusters extending to the very base of the stem, and bearing from one to four flowers; flowers rather large; calyx five-parted, green, only slightly lighter on the borders; style very short, three-parted, the divisions hardly perceptible; achene triquetrous, oblong, rather blunt at both ends, smooth and very glossy.

A well marked species of the Avicularia section collected by Brandegee on the Sawatch Range, Colorado. The specimens are in the Herbarium of the California Academy of Sciences.

POLYGONUM PUNCTATUM, Ell., var. ECILIATUM, n. var. More robust than the species, less scurfy throughout, erect, much branched; leaves lanceolate to oblong-lanceolate, rather broad, less punctate than the normal form; ocreæ cylindric, loose, long, strictly entire and free from bristles; the narrow racemes, as well as the upper parts of the pedicels, dark reddish-purple; achene broadly oblong, finely but plainly reticulated.

Differs from the species principally in its glossy appearance, owing to the absence of the usual scurfy surface, perfectly smooth and eciliate ocreæ, and the slightly narrower and more reticulated achene. The color of the flowers and racemes, though of less consequence, is very striking.

Collected by Mr. Pringle in wet places, Valley of Toluca in the State of Mexico. No. 4213.

POLYGONUM PERSICARIOIDES, H. B. K. This sub-tropical species heretofore so imperfectly known, has been discovered in Lower California, by Mr. Brandegee, at two localities, namely, San Jose del Cabo and Sierra de San Francisquito. It ought to be found in Southern California and the States to the east.

Mr. Pringle, in his last Mexican journey, encountered a peculiar form of this species. The stems are several from an oblique root-stalk, simple or nearly so, leaves shorter, broader and less acute than in the normal form, and the narrow racemes fewer flowered. The habitat is given as wet meadows, Valley of Toluca, State of Mexico, No. 4218.

POLYGONUM HYDROPIPEROIDES, Michx., var. STRIGOSUM, Small. Very common in slow streams, swamps, etc., in the San Bernardino Valley, California, according to Mr. S. B. Parish, who has collected fine specimens and records its flowering season as October and November. Mr. J. W. Congdon has also gathered it at Visalia, Tulare county, California, which is some distance north of the San Bernardino Valley. The variety holds its character in every respect.

As we have it now from different points east of the Mississippi River and from two localities near the Pacific coast, we may expect it to be found in the future at intermediate places.

P. hydropiperoides, as well as the variety *strigosum*, has an almost invariable character which, it seems, has never been recorded. The stem or branches always produce, at the distance of three-fourths of an inch or less above the angle of branching, a node with a leaf and ocrea, thus making an internode several times shorter than normal length.

POLYGONUM LITTORALE, Link. Although this species has found no place in the text-books or other botanies of our country it is not uncommon. Usually, it has been confounded with either *P. erectum* or *P. aviculare*, neither of which it resembles so closely as to render such a confusion excusable. The examination of material, in different herbaria, under the above mentioned names will doubtless show that the species is not rare. I find a number of botanists, feeling that no allowence was made for this form, have left it unnamed in their collections. *P. littorale* is more woody than *P. erectum* and *P. aviculare*. It spreads out extensively, one plant often covering several square yards. Its achene is much broader and less pointed, and also of a darker color (almost black), less reticulated and more shining than that of *P. aviculare*. Specimens in the Herbarium of the Geological Survey of Canada give us a considerable Northern extension of the range, Macoun having found it in British America at Silver City, on the Rocky Mountains, and on open praries near Walsh, N. W. T.

POLYGONUM RAYI, Babington. For the present we will have to consider this as an introduced and naturalized plant. But as it is appearing from so many and widely separated localities it may yet prove to be native. It grows plentifully on the coasts of Europe in company with *P. maritimum*, with which it has always been confounded here. *P. maritimum* is common to both Europe and America, and there is no reason why *P. Rayi* should not be also. It is true that this species is closely related to *P. maritimum*, but it can readily be distinguished by the more acute achene which protrudes farther beyond the calyx, by the longer internodes, the flat and fewer veined leaves, and the few veined ocreæ. The whole plant is also less glaucous. We now have it well represented in British America, as the following stations will indicate: sea beaches, Brackley Point, Prince Edward Island (Macoun); sandy beaches, Bass River, N. B. (Fowler); Jupiter River, Anticosti, P. Q. (Macoun). The most interesting locality is Qualicum, Vancouver Island (Macoun).

POLYGONUM AUSTINÆ, Greene. The range of this once obscure species is gradually being brought to light. Some time after its discovery on the sage-brush plains in Northern California by Mrs. Austin, the plant was picked up by the U. S. Geological Surveys in the Yellowstone Park, Wyoming. This specimen found its way to the National Herbarium at Washington and remained there undetermined. I now find that the species was discovered in British America by Dawson at South Kootanie Pass, on the Rocky Mountains, one year previous to its collection in California. This specimen is preserved in the Herbarium of the Geological Survey of Canada, having been erroneously determined as *P. tenue*, var. *latifolium*. *P. Austinæ* is a remarkably clear species, holding the characters given to it originally by Prof. Greene (Bull. Cal. Acad. Sci. i. 212), with one minor exception. I find that often the achene at maturity slightly surpasses the calyx.

POLYGONUM KELLOGGII, Greene. Before my preliminary paper on the genus was printed I had not seen Prof. Greene's type nor a specimen of what he referred to his new species. Being thus unable to tell exactly what he included under *P. Kelloggii*, I temporarily placed all forms related to *P. imbricatum* under that species. As I have lately become fully acquainted with this plant I can now map out the following geographical range for it—Washington; Shamania County (Suksdorf): California; Modoc county (Mrs. Austin), Lake County, Snow mountains (Brandegee), Donner Lake, Mariposa County, Yosemite

(Bolander), Placer County (Carpenter): Utah; Parley's Park, 6500 ft. (Watson, 1062 in part), Alta Wahsatch mountains 10,000 ft. (Jones, 1105): Colorado: Bear Creek valley, near Empire, 10,000 ft. (Patterson).

Thomas Hogg.

Mr. Thomas Hogg, an active and highly esteemed member of the Torrey Botanical Club, died suddenly of angina pectoris, on the 30th of December, 1892. He was born in London, February 6, 1820, and came to this country with his father, Thomas Hogg, Senior, when only 9 months old. From his earliest years his natural taste for the study of plants and horticultural pursuits was fostered by his surroundings. His father was long engaged in the management of gardens and greenhouse culture before leaving England, and was all his life afterwards a successful nurseryman and florist in the city of New York. In this business he was assisted by Thomas Hogg, Junior, and his brother James, who took charge of his establishment at his death in 1855, and for many years subsequently conducted the business on their own account.

Mr. Hogg was made United States Marshal in the year 1862, and in that capacity paid a visit to Japan, in which country he remained eight years. At the end of that period he resigned his office and returned home. Shortly after, however, he was invited by the Japanese Government to return to the Island and take office in the Custom House, which he did, spending two years more in that service. During his long sojourn in Japan, he spent much time in travelling over the Islands and studying their flora, his official position giving him unusual facilities for exploration and collection. He made a large collection of Japanese trees, shrubs and herbaceous plants, such as he thought adapted to culture in our country. These he shipped to New York, many of them subsequently finding their way to England. Among those which proved to be adapted to our climate, are many of the choicest Japanese plants which ornament our gardens to-day, which he was the first to introduce.

In this manner Mr. Hogg acquired that familiarity with horticulture for which he was noted, and about which his advice was